[Title]

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Section	**1.1 Purpose**				
Information	**1.1.1 Movie streaming service** **[VideoStreaming-39]** The application to be defined will be used for streaming movies which were released semi-recently (more specific time frames follow later) in exchange for monthly payments to the producer of the application				
Section	**1.2 Scope** **[VideoStreaming-3]**				
Information	**1.3 Software product(s)** **[VideoStreaming-40]** There are two major software products to be developed: 1. A downloadable app 2. A web based application (PWA) Every requirement will by default apply to both of these products unless specifically stated otherwise				
Information	**1.4 Functionality** **[VideoStreaming-41]** Users may decide between different membership tiers that each cost a different amount of money (paid each month) and grants different levels of functionality at the core of which is the streaming of movies				

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Section	**1.5 Product perspective**				
Section	**1.5.1 System interfaces [VideoStreaming-5]**				
Section	**1.5.2 User interfaces**				
Information	**1.5.2.1 Styleguide** **[VideoStreaming-43]** A more detailed styleguide will be created further on in the development cycle but key requirements are: • All forms and controls must have rounded corners • There must be both light mode and dark mode • The color scheme will consist of white and blue (light mode) or black and blue (dark mode)				
Section	**1.5.3 Hardware interfaces**				
Information	**1.5.3.1 Supported devices** **[VideoStreaming-66]** Supported devices are: • PC • Notebook/Laptop • Tablets • Smartphones				
Section	**1.5.4 Software interfaces**				
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Type	*Description*	*Source*	*Priority*	*Ver. Method*	*Kano-Model Category*
Information	**1.5.4.2 Database access** **[VideoStreaming-45]** The application requires an interface to a database where both movie data and user data are stored				
Information	**1.5.4.3 Payment service** **[VideoStreaming-107]** The application must have an interface to a service that checks the vlidity of the payment informations a user inputs during registration				
Section	**1.5.5 Memory constraints**				
Information	**1.5.5.1 Application size** **[VideoStreaming-87]** The application must not need more than 500 MB of storage space on any given device (excluding possible movie downloads)				
Section	**1.6 Product functions**				
Information	**1.6.1 Stream movies** **[VideoStreaming-35]** Primary use of the application is the streaming of movies that were that were released in roughly the last to years(more details later)				
Information	**1.6.2 Search movies** **[VideoStreaming-36]** In order to find a specific movie there has to be a possiblity to search for movies				
Information	**1.6.3 Download movies**				

Type	Description	Source	Priority	Ver. Method	Kano-Model Category
	[VideoStreaming-37] Depending on the account type of the user it should be possible to download and store movies for watching when not online				
Information	**1.6.4 Recommendations** **[VideoStreaming-38]** The application must give recommendations to the user based on his search and watch history				
Information	**1.6.5 Account management** **[VideoStreaming-42]** The application must have functionality for account management				
Section	**1.7 User characteristics**				
Information	**1.7.1 Average user** **[VideoStreaming-32]** • age between 18 and 40 • male • no specific nationality • has prior experience with similar applications				
Information	**1.7.2 Underaged user** **[VideoStreaming-33]** With the parents consent it is possible for underaged persons to use the application				
Information	**1.7.3 User with disabilities** **[VideoStreaming-34]** Users may have disabilities like the following:				

Type	Description	Source	Priority	Ver. Method	Kano-Model Category
	• color blindness • bad eyesight or complete blindness • deafness				
Section	**1.8 Limitations**				
Information	**1.8.1 Banned movies** **[VideoStreaming-108]** Should a movie be banned in a country it must not be possible for users connecting to the service from that country to get access to that movie				
Section	**1.9 Acronyms and abbreviations**				
Information	**1.9.1 PWA** **[VideoStreaming-86]** Progressive web application				
Information	**1.9.2 MPAA** **[VideoStreaming-81]** Motion Picture Association				
Information	**1.9.3 NIST** **[VideoStreaming-82]** National Institute of Standards and Technology				
Information	**1.9.4 GDPR** **[VideoStreaming-96]** General Data Protection Regulation				
Section	**2. Requirements**				
Section	**2.1 Functions**				
Functional Requirement	**2.1.1 User registration**	User	High	Test	Threshold

Type	Description	Source	Priority	Ver. Method	Kano-Model Category
	[VideoStreaming-47] The application must have a form with which a user can create an account. This formula must have inputs for: • Email address • Password (must fulfill most recent NIST recommendations) • Repeat password • Membership type • Payment option (either Paypal or Debit card)				
Functional Requirement	**2.1.1.1 Multiple Membership types** **[VideoStreaming-99]** At time of launch users may decide between two different membership types that will decide upon the extent of thefunctionality they will have access to: • Normal (5$/month) • Premium (15$/month)	Organization	Low	Inspection	Performance
Functional Requirement	**2.1.1.2 Successful registration** **[VideoStreaming-79]** On successful registration the user will receive an email to verify and activate his account after which he will be redirected to the login page	User	High	Test	Threshold
Functional Requirement	**2.1.1.3 Unsuccessful registration** **[VideoStreaming-80]** On unsuccessful registration one or more error message(s) will	User	High	Test	Threshold

Type	Description	Source	Priority	Ver. Method	Kano-Model Category
	be displayed detailing what went wrong (e.g. password doesn't meet security standards)				
Functional Requirement	**2.1.2 Login** **[VideoStreaming-48]** The application must have a form with which the user can log into his account. Must have inputs for: • Email address (identification) • password (authentification) • "Remember me" checkbox (only for the PWA)	User	High	Test	Threshold
Functional Requirement	**2.1.2.1 Successful login** **[VideoStreaming-83]** On successful login the user will be able to select the profile after which he will be redirected to the startscreen of the application	User	High	Test	Threshold
Functional Requirement	**2.1.2.2 Unsuccessful login** **[VideoStreaming-84]** On an unsuccessful login attempt an error message will be displayed and the password input will be cleared	User	High	Test	Threshold
Functional Requirement	**2.1.2.3 Forgot password** **[VideoStreaming-85]** It must be possible to reset the password for an account by requesting an email	User	High	Test	Threshold
Functional Requirement	**2.1.3 Account management** **[VideoStreaming-68]** The application must have	User	High	Test	Threshold

Type	Description	Source	Priority	Ver. Method	Kano-Model Category
	functionality for account management				
Functional Requirement	**2.1.3.1 Number of profiles** **[VideoStreaming-67]** Normal users can have up to 4 different profiles per account of which 2 may use the application simultaneously. Premium users can have up to 8 different profiles per account of which 6 may use the application simultaneously.	User, Organization	High	Test	Performance
Functional Requirement	**2.1.3.2 Admin profile** **[VideoStreaming-70]** Profiles can be declared admins for the account granting them several administrative rights (see following requirements)	User	High	Test	Threshold
Functional Requirement	**2.1.3.3 Create profiles** **[VideoStreaming-71]** Admin profiles can create new profiles as long as the maximum number for their membership plan is not exceeded	User	High	Test	Threshold
Functional Requirement	**2.1.3.4 Delete profiles** **[VideoStreaming-72]** Admin profiles can delete other non-admin profiles	User	High	Test	Threshold
Functional Requirement	**2.1.3.5 Grant admin** **[VideoStreaming-73]** Admin profiles can grant admin status to other profiles	User	High	Test	Threshold

Type	Description	Source	Priority	Ver. Method	Kano-Model Category
Functional Requirement	**2.1.3.6 Age restriction** **[VideoStreaming-69]** Admin profiles can enable and disable age restriction mode for profiles	User, Government policies	Medium	Test	Threshold
Functional Requirement	**2.1.3.7 Deactivate account** **[VideoStreaming-75]** Admin users can deactivate the account making it impossible for any profile of the account to use the applications services	User	High	Test	Threshold
Non-func. Requirement	**2.1.3.8 Reactivate account** **[VideoStreaming-104]** The user should have a 30 day time period in which he can reactivate his account without having to go through the process of registrating again	User	Medium	Test	Performance
Non-func. Requirement	**2.1.3.9 Delete account** **[VideoStreaming-103]** Deactivated accounts automatically have all their data deleted 30 days after deactivation or earlier should the user wish so	User, Government policies	Medium	Test	Performance
Functional Requirement	**2.1.4 Startscreen** **[VideoStreaming-78]** The application must have a startscreen showing both profile-related and non-profile-related recommendations	User	High	Inspection	Threshold
Functional Requirement	**2.1.4.1 Current trends** **[VideoStreaming-88]** On the startscreen displayed will be	User	Medium	Inspection	Performance

Type	Description	Source	Priority	Ver. Method	Kano-Model Category
	the Top 10 most watched movies of the last week				
Functional Requirement	**2.1.4.2 Recommendations** **[VideoStreaming-89]** On the startscreen displayed should be recommendations for the user the are based on his search and watch history	User	Medium	Inspection	Performance
Functional Requirement	**2.1.4.3 History** **[VideoStreaming-90]** On the startscreen displayed will be both unfinished and recently watched movies	User	High	Inspection	Threshold
Functional Requirement	**2.1.5 Movie search** **[VideoStreaming-77]** It must be possible to serach for movies by their title	User	High	Test	Threshold
Functional Requirement	**2.1.5.1 Successful search** **[VideoStreaming-91]** On successful search the movie will be displayed with additional information (runtime, actors, regie, genres) and is able to be started with 1 additional click	User	High	Test	Threshold
Functional Requirement	**2.1.5.2 Unsuccessful search** **[VideoStreaming-92]** On unsuccessful search the user will be notified that the movie is not available	User	High	Test	Threshold
Functional Requirement	**2.1.5.3 Filter for Genre** **[VideoStreaming-121]** Movies must be categorized into different genres and it must be posible to filter for different genres	User	High	Test	Performance

Type	Description	Source	Priority	Ver. Method	Kano-Model Category
Functional Requirement	**2.1.5.4 Search for actors** **[VideoStreaming-93]** It should be possible to search for actors which will return the 5 most popular movies starring that actor	User	Medium	Test	Performance
Functional Requirement	**2.1.6 Stream movies** **[VideoStreaming-94]** The application must allow a user to stream a movie while connected to the internet and having the necessary connection speed	User	High	Inspection	Threshold
Functional Requirement	**2.1.6.1 Change language and subtitle** **[VideoStreaming-100]** It must be possible to change the movies language and the subtitles language without having to pause the Film	User	High	Inspection	Threshold
Functional Requirement	**2.1.6.2 Remember time of pause** **[VideoStreaming-101]** The application must save the time at which a user stopped the movie even should the application be terminated	User	High	Test	Threshold
Functional Requirement	**2.1.7 Download movies** **[VideoStreaming-95]** It must be possible to download movies and save them so they can also be watched when no internet connection is available. (Only applicable to the downloadable app)	User	Medium	Inspection	Performance

Type	Description	Source	Priority	Ver. Method	Kano-Model Category
Functional Requirement	**2.1.7.1 Number of downloadable movies** **[VideoStreaming-98]** Profiles belonging to a normal account may doenload two movies each. Profiles belonging to a premium account may download five movies each.	User, Organization	Medium	Test	Performance
Non-func. Requirement	**2.1.7.2 Downloaded movies storage size** **[VideoStreaming-97]** In order to save storage space on the users device all downloaded movies are only avaialable in FullHD	Developer	Medium	Inspection	Performance
Functional Requirement	**2.1.8 Rate movies** **[VideoStreaming-102]** It should be possible to rate movies on a scale From 1 to 5 (half points are possible)	User	Low	Inspection	Excitement
Functional Requirement	**2.1.9 Advertising** **[VideoStreaming-112]** The application may display advertisment for users with a normal account	Organization	Medium	Inspection	Reverse
Non-func. Requirement	**2.1.9.1 Targeted advertising** **[VideoStreaming-119]** When using the web based application the application must show a Cookie banner upon login. The application may use optional Cookies for targeted	Organization	Medium	Inspection	Reverse

Type	*Description*	*Source*	*Priority*	*Ver. Method*	*Kano-Model Category*
	advertisement should the user not prohibit the usage				
Functional Requirement	**2.1.10 Localization** **[VideoStreaming-117]** The application may use information like ip-address, connection infromations and additional infromation from internet service providers to roughly localize the user	Organization, Government policies	High	Test	Indifferent
Non-func. Requirement	**2.1.10.1 Measures against VPNs** **[VideoStreaming-118]** The application may take action against the usage of VPNs (e.g. banning IP-Addresses of known VPN-Servers) in order to bypass the ban on movies in their country	Organization	Medium	Test	Reverse
Section	**2.2 Usability requirements**				
Functional Requirement	**2.2.1 Application language(s)** **[VideoStreaming-58]** The application must support all of the following languages: • English • French • Spanish • Portuguese • German • Italian • Chinese • Japanese • Korean • Arabic	User, Organization	High	Inspection	Threshold
Functional Requirement	**2.2.2 Movie language(s)**	User, Organization	High	Inspection	Threshold

Type	Description	Source	Priority	Ver. Method	Kano-Model Category
	[VideoStreaming-59] Every movie must be available in its original language and if existing dubbed in: • English • French • Spanish • German • Chinese • Japanese Additionally every movie must have subtitles for all supported application languages				
Functional Requirement	**2.2.3 Standard resolution** **[VideoStreaming-56]** Every movie must be available in FullHD for all users	User, Organization	High	Inspection	Threshold
Functional Requirement	**2.2.3.1 Additional resolution** **[VideoStreaming-57]** For premium members every movie must also be available in 2K, QHD and 4K	User, Organization	Low	Inspection	Excitement
Functional Requirement	**2.2.4 Accessibility** **[VideoStreaming-60]** For users with disabilities the application should support color blind mode and text reader	User	Medium	Inspection	Performance
Functional Requirement	**2.2.4.1 Healthcare warnings** **[VideoStreaming-110]** The application must have healthcare warnings for at least these possible problems: • Movies that feature rapidly blinking lights that might lead to	Organization	Medium	Inspection	Indifferent

Type	Description	Source	Priority	Ver. Method	Kano-Model Category
	epileptic seizures must have a warning • After an uninterrupted use of 6 hours the application must show a warning that excessive use may be bad for eyesight				
Non-func. Requirement	**2.2.5 Energy saving** **[VideoStreaming-111]** The user may enable eye-tracking using their devices camera. Should the application notice that the user isn't focusing on the screen for more than 15 seconds the movie will automatically pause, allowing the users enrgy saving settings to possibly send the device into sleep mode	Organization, Developer	Low	Test	Excitement
Functional Requirement	**2.2.6 Age restriction mode** **[VideoStreaming-74]** The application must support an age restricted mode based on the MPAA film rating system that can be activated to restrict access to age restricted movies	Organization, Government policies	High	Inspection	Threshold
Non-func. Requirement	**2.2.7 Collecting Data** **[VideoStreaming-120]** The application must collect these types of data at least: • usage information • device information	Organization, Developer	High	Test	Threshold
Section	**2.3 Performance requirements**				

Type	*Description*	*Source*	*Priority*	*Ver. Method*	*Kano-Model Category*
Non-func. Requirement	**2.3.1 Number of users** **[VideoStreaming-61]** At time of launch the application must be able to support 1 million users simultaneously	Developer	High	Analysis	Threshold
Non-func. Requirement	**2.3.2 Available movies** **[VideoStreaming-62]** Every movie that ran in cinemas must be available 100 days after their theatrical relase and will then be available for exactly 2 years	Developer, Organization	High	Inspection	Threshold
Non-func. Requirement	**2.3.3 Connection speed** **[VideoStreaming-63]** While streaming a connection speed of 10 Mbps must be enough for the movie to run in FullHD without lagging	Developer	High	Analysis	Threshold
Non-func. Requirement	**2.3.4 Process time** **[VideoStreaming-76]** 90% of transactions (e.g. login, movie search) must be completed in under 1 second	Developer	High	Analysis	Threshold
Section	**2.4 Logical database requirements**				
Non-func. Requirement	**2.4.1 Account data** **[VideoStreaming-64]** Account data consists of: • email • membership type • payment information • number of profiles for this account • references to the profile data for this account	Developer	High	Analysis	Indifferent

Type	Description	Source	Priority	Ver. Method	Kano-Model Category
	Additionally it has to be encrypted before being stored in the database				
Non-func. Requirement	**2.4.2 Profile data** **[VideoStreaming-65]** Profile data consists of: • application language • default movie language • top search reulst of the last 25 searches • watch history (last 10 watched movies including at which point the movie was stopped) • age restriction mode	Developer	High	Analysis	Indifferent
Non-func. Requirement	**2.4.3 Movie data** **[VideoStreaming-113]** Movie data consists of: • video data in different resolutions • audio data for different languages • subtitles in different langauges	Developer	High	Analysis	Indifferent
Section	**2.5 Design constraints**				
Non-func. Requirement	**2.5.1 Styling** **[VideoStreaming-49]** The styleguide for HMI must at all times be observed	Developer	High	Inspection	Indifferent
Section	**2.6 Standards compliance**				
Non-func. Requirement	**2.6.1 GDPR** **[VideoStreaming-53]** In compliance with the GDPR	Government policies	High	Analysis	Threshold

Type	Description	Source	Priority	Ver. Method	Kano-Model Category
	will all user data of users living in the EU also be stored there				
Non-func. Requirement	**2.6.2 Banned movies** **[VideoStreaming-114]** If a movie is banned in a country it must not be possible for users connecting to the service from that country to get access to that movie	Government policies	High	Analysis	Threshold
Section	**2.7 Software system attributes**				
Non-func. Requirement	**2.7.1 Reliability** **[VideoStreaming-50]** The application must run without crashing in 95% of its uses	Developer	High	Analysis	Threshold
Non-func. Requirement	**2.7.2 Availability** **[VideoStreaming-51]** The application must be available at all times and in every country except the following: • North Korea • Russia	Developer	High	Analysis	Threshold
Non-func. Requirement	**2.7.3 Security** **[VideoStreaming-52]** • Personal data is to be encrypted using the Advanced Encryption Standard (AES)	Developer	High	Analysis	Threshold
Non-func. Requirement	**2.7.4 Portability** **[VideoStreaming-55]** The Application must be available from: • Google Play Store • App Store	Developer	High	Inspection	Threshold

Type	Description	Source	Priority	Ver. Method	Kano-Model Category
	The Application must be runable on the last 3 major version of each of these operating systems: • Windows • macOS • Android • iOS • iPadOS The web based application must be functional with the last 5 versions of these browsers: • Chrome • Safari • Firefox • Edge				
Non-func. Requirement	**2.7.5 Scalability** **[VideoStreaming-115]** The application must be scalable to support both a larger number of users and a larger number of movies than anticipated at launch without having to refactor more than 10% of the source code	Developer, Organization	High	Analysis	Indifferent